

VARIETIES *of* GRAIN *for* ALBERTA

PREPARED BY
ALBERTA VARIETAL
ZONATION COMMITTEE



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HON. L. C. HALMRAST
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GOOD SEED DOESN'T COST—IT PAYS!

THE ALBERTA VARIETAL ZONATION COMMITTEE

The Committee is composed of representatives of the following Agencies : Department of Plant Science, University of Alberta; Field Crops Branch, Alberta Department of Agriculture; and the Research, Production & Marketing Branches of the Canada Department of Agriculture.

The purpose of this Committee is to co-ordinate the findings of the various experimental agencies and to recommend to farmers those varieties which have proven most suited for production in the various soil climatic zones in Alberta. Recommendations are revised annually, and established varieties are from time to time superseded by others which possess more desirable features.

WHEAT HARD RED SPRING WHEAT

Thatcher is a high yielding variety of wide adaptability. It is resistant to lodging and highly resistant to shattering. The kernels are small, have a tendency to bleach, and may be low in bushel weight under dry conditions. Thatcher is resistant to most races of stem rust (except 15B), but is susceptible to leaf rust and bunt.

Lake compared with Thatcher is later in maturity, has longer straw, is equal in lodging resistance and has larger kernels which show less tendency to bleach. Because of its late maturity it is recommended only in Zone 2B. It is resistant to bunt and most races of stem rust (except 15B), but is susceptible to leaf rust.

Saunders is earlier maturing than Thatcher, and is generally slightly lower yielding except in the Peace River area. It is equally resistant to lodging and does not shatter readily. Saunders is resistant to most races of stem rust (except 15B), moderately resistant to bunt, but is susceptible to leaf rust.

Selkirk is slightly earlier than Thatcher and compares favourably in yield and lodging resistance, but has a larger, less attractive kernel. It is resistant to stem rust (including Race 15B) and bunt, and moderately resistant to leaf rust.

Chinook and Rescue are similar to Thatcher in maturity, less resistant to shattering and lodging and lower yielding. Both are resistant to the wheat stem sawfly and most races of stem rust (except 15B), but are susceptible to bunt and leaf rust. **Chinook** produces attractive grain of high bushel weight. **Rescue** is slightly more sawfly resistant than Chinook but is not eligible for grades higher than No. 3 Northern.

DURUM WHEAT

The production of **Durum** (macaroni) wheat varieties should be restricted to southern zones because of their late maturity. They are similar to hard red spring wheats in yield, but are generally more susceptible to lodging. **Mindum, Ramsey** and **Stewart** are suitable varieties for production in Southern Alberta.

HARD RED WINTER WHEAT

Kharkov M.C. 22 is the most winter hardy variety available. It is high yielding, resistant to lodging but tends to shatter and is very susceptible to bunt. **Yogo** is equal to Kharkov in yield, more resistant to bunt and to shattering, but less resistant to lodging. These varieties are suitable for production in Zones 1, 2A, 2C and 3A.

SOFT WHITE SPRING WHEAT

This crop should be grown only under contract with a milling company. The most suitable varieties presently available are **Kenhi** and **Lemhi 53**. **Kenhi** is resistant to stem rust including race 15B and moderately resistant to leaf rust. **Lemhi 53** is moderately resistant to most races of stem rust (except 15B), and susceptible to leaf rust. Both are late maturing varieties.

OATS

Eagle is a high yielding variety with wide adaptability. It is semi-resistant to lodging, late maturing and has a comparatively small kernel. Eagle is resistant to smut, moderately resistant to crown rust but susceptible to stem rust.

Victory is recommended for production in northern regions, where it is equal to Eagle in yield and maturity. It has a more attractive grain, produces longer straw, and is less resistant to lodging than Eagle. Victory is susceptible to smut, stem and crown rust.

Abegweit, recommended in northern regions, is similar to Victory in yield, earlier maturing and more resistant to lodging, but has a less attractive grain. It is resistant to some races of stem and crown rust and moderately susceptible to smut.

Exeter, similar to Eagle in yield, is unusual in that it shows later maturity in the South and earlier maturity in the North (Fort Vermilion area). It is a large seeded, tall variety with somewhat less lodging resistance than Eagle. Exeter is semi-resistant to smut, resistant to many races of stem rust but susceptible to crown rust.

Rodney yields slightly less and matures slightly earlier than Eagle and is similar in lodging resistance. It has a large, plump kernel that hulls readily. Rodney is resistant to smut and most races of stem and crown rust.

Garry is slightly earlier maturing than Rodney and slightly lower yielding, but similar in lodging resistance. It is resistant to smut, stem rust and most races of crown rust.

Larain is a very early maturing variety with large, plump kernels. It is resistant to lodging, but is low yielding and should be grown only where very early maturity is essential. It is susceptible to smut, stem and crown rust.

BARLEY

Olli, eligible for C.W. grades and acceptable to the malting trade, is a very early maturing, rough awned, low yielding variety which is susceptible to lodging and shattering. It has considerable resistance to loose smut but is susceptible to stem rust and leaf diseases.

Gateway, eligible for C.W. grades, is smooth-awned, higher yielding and slightly later maturing than Olli. It is more resistant to lodging and shattering and is susceptible to loose smut, stem rust and leaf diseases.

Parkland, eligible for C.W. grades and acceptable to the malting trade, is considerably higher yielding but much later maturing than Olli. It is smooth-awned and moderately resistant to lodging and shattering. Parkland is resistant to stem rust, susceptible to loose smut and leaf diseases.

Compana, eligible for C.W. 2-row grades, is an early, two-rowed, semi-smooth-awned variety, which yields well in dry areas and is suitable for straight combining. Under moist conditions it lodges badly. Compana is susceptible to stem rust, loose smut and leaf diseases.

Harlan, not eligible for C.W. grades, is a rough-awned, lodging resistant variety that yields well on irrigated land. It is highly resistant to shattering but tends to be low in bushel weight. Harlan is resistant to many of the leaf diseases but susceptible to loose smut and stem rust.

Husky, not eligible for the C.W. grades, is a smooth-awned, late maturing, very high yielding variety that is resistant to lodging. It tends to shatter in southern regions but is satisfactory in this respect in zones where it is recommended. Husky is resistant to stem rust but susceptible to loose smut and leaf diseases.

Vantage, not eligible for C.W. grades, is a medium late maturing, high yielding, lodging resistant, smooth-awned variety. Under many conditions the awns on this variety are very persistent. Vantage is resistant to stem rust but susceptible to loose smut and the common leaf diseases.

Wolfe, not eligible for C.W. grades, is a smooth-awned variety that matures 4 or 5 days later than Olli. It is highly resistant to lodging and higher yielding than Olli in central Alberta. Wolfe yields well under irrigation. It is susceptible to rust, loose smut and leaf diseases.

FLAX

Marine is early maturing, and resistant to lodging, wilt and rust. In the absence of rust it yields less than Redwing.

Redwing is very early maturing, good yielding, resistant to lodging, moderately resistant to wilt, but susceptible to rust.

Redwood is late maturing, high yielding, moderately resistant to lodging and resistant to wilt and rust.

Sheyenne is very early maturing and resistant to lodging, rust and wilt. In the absence of rust it yields less than Redwing.

RYE

Antelope, Dakold, Petkus and **Sangaste** are varieties of fall rye suitable for use in Alberta. Antelope and Dakold are more winter hardy than Sangaste which in turn is slightly hardier than Petkus. Sangaste and Petkus have large seeds while Antelope and Dakold have small seeds. Petkus has out yielded all varieties in south and south central Alberta, while Sangaste has given superior yields in the Edmonton area. Prolific is a suitable variety of spring rye.

RAPE SEED, MUSTARD and SAFFLOWER

It is advisable that these crops be grown under contract. Mustard and Safflower production should be restricted to the extreme southern part of the province. There are two types of rape seed being used in Alberta. Argentine rape which requires from 120 to 130 days to mature gives much higher yields than Polish rape that ripens some three weeks earlier. **Golden** is a good yielding variety of the Argentine type and **Arlo** is a good yielding variety of the Polish type.

IMPORTANT SEED FACTS

Use The Best Seed

There are many factors which contribute to the performance of good seed. In addition to selecting the proper variety for a specific purpose, one should consider varietal purity, freedom from weeds or other material, freedom from disease and, of course, germination.

Furthermore there appears to be yet another factor of considerable importance — seed size. It has been found that large seeds carry less loose smut infection than small seeds; a very important consideration in barley.

Growers can expect a substantial reduction in loose smut infection by using the larger seeds of a bulk lot.

Therefore, in addition to the many well known advantages of screening, growers are well advised to screen out the larger grains for seed and use the smaller ones for feed.

Loose smut in barley cannot be controlled by chemical treatment, and the hot-water method, though effective, is difficult to use.

Germination Tests

It is essential every year that grain intended for seeding be tested for germination. Frost, moisture and other conditions may lower the percentage of germination and also the vitality of the seedlings. Much of the seed to be used in 1960 will have a high moisture content. Extra precautions should be taken with this seed. Germination tests on grain with more than 16.5% moisture are unreliable, therefore do not plan on using such grain for seed unless dried. Remember too, that a sample of damp grain mailed to a laboratory for testing will dry out enroute and the results of the test will not truly represent the grain in the bin. Much better then to test such grain in sand or soil at home.

Grain which has been artificially dried may have had the germination damaged unless temperatures were carefully controlled. Always test for germination **after** drying. Seed offered for sale must have an official germination test. Samples may be forwarded to the Plant Products Division, Canada Department of Agriculture, Edmonton. The fee for testing cereals is .75c for each sample, payable when sample is submitted.

Seed Treatment

Adequate seed treatment is an important aspect of crop production. There are various materials for seed treatment on the market and farmers should make certain that they obtain proper dressings that best suit their purpose.

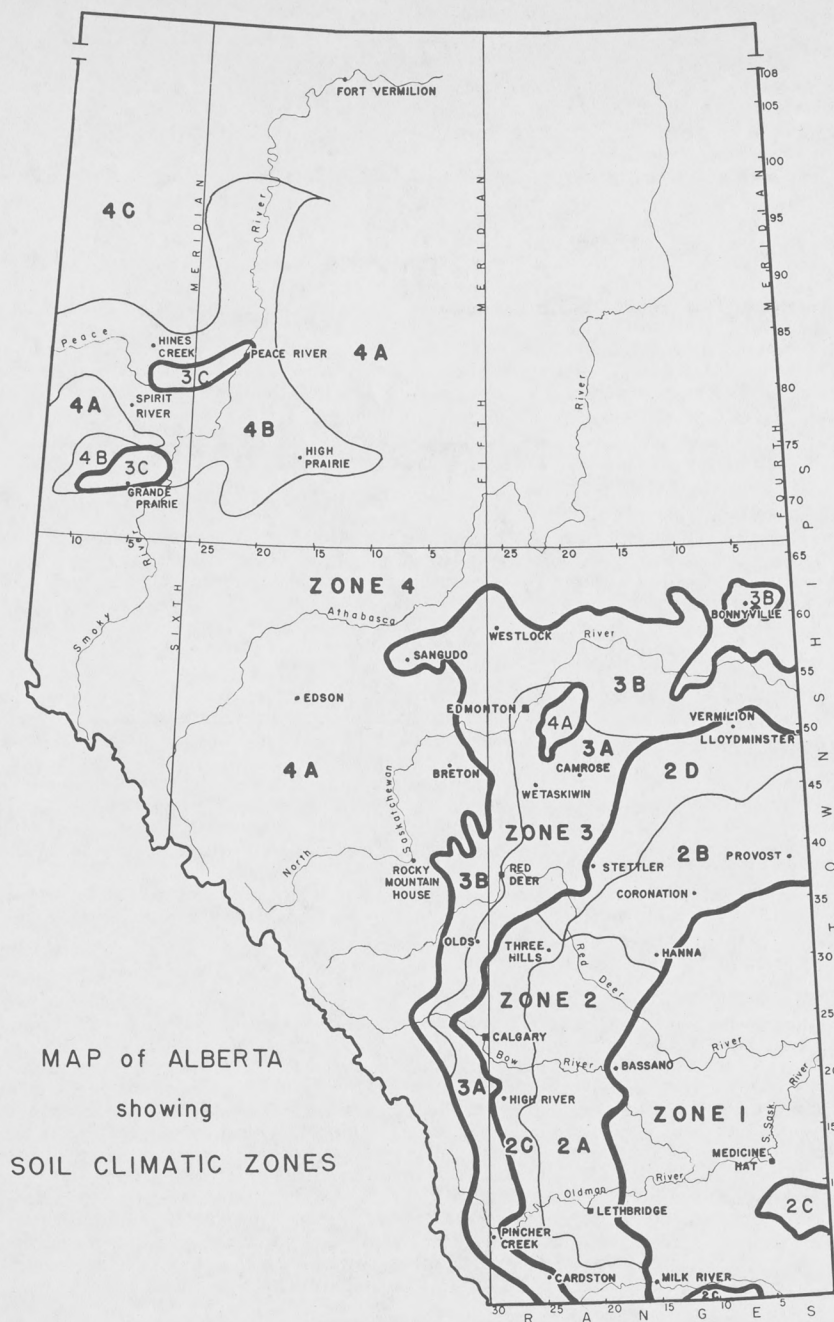
To obtain the best use of seed dressings, the following factors must be considered:

(1) Follow the directions of the manufacturer.

(2) Wheat should be treated at least 24 hours; and oats and barley at least one week prior to seeding.

(3) Damp grain cannot be stored after treating for any prolonged period without risk of serious damage to the germination.

(4) Wear a mask when treating seed.



MAP of ALBERTA
showing
SOIL CLIMATIC ZONES

VARIETAL ZONES

In order to give more specific recommendations on varieties, the Province has been divided into zones in which growth conditions are relatively uniform. Such zones naturally merge into each other, and the boundaries as shown on the accompanying map indicate only general outlines. Growth conditions are not entirely uniform throughout any zone, and it is recognized that small areas exist in each where local conditions may make it more profitable to produce a variety not recommended for the whole area. For these reasons, more than one variety is usually recommended for each zone.

VARIETIES RECOMMENDED

(VARIETIES ARE LISTED IN ALPHABETICAL ORDER, NOT ACCORDING TO MERIT OR DESIRABILITY)

Zones	Spring Wheat	Barley	Oats	Flax
1	* Chinook * Rescue Thatcher	Compana Vantage	Eagle Exeter	Redwood
2 A	* Chinook * Rescue Thatcher	Compana Vantage	Eagle Exeter	Redwood
2 B	* Chinook Lake * Rescue Thatcher	Husky Parkland	Eagle Rodney	Redwood
2 C	* Chinook * Rescue Thatcher	Compana Husky Parkland Wolfe	Eagle Garry Rodney	Redwing Redwood
2 D	Selkirk Thatcher	Gateway Husky Parkland	Eagle Garry Rodney	Redwing Redwood
Irrigated Areas	Selkirk Thatcher	Harlan Wolfe	Eagle Rodney	Redwood
3 A	Saunders Thatcher	Gateway Husky Parkland Wolfe	Eagle Garry Rodney	Redwing Redwood
3 B	Saunders Thatcher	Gateway Husky Wolfe	Eagle Garry Rodney	Redwing Redwood
3 C	Saunders Thatcher	Gateway Husky Olli	Abegweit Victory	Marine Redwing
4 A	Saunders Thatcher	Gateway Olli Parkland	Eagle Garry Larain	Redwing
4 B	Saunders Thatcher	Gateway Olli Parkland	Abegweit Victory	Marine Redwing
4 C	Saunders Thatcher	Gateway Olli	Abegweit Exeter Victory	Marine Redwing Sheyenne

* Sawfly resistant — see description.